

SECTION 7

COMBAT SYSTEMS

Radio Frequency Radiation (RFR) Hazards (RADHAZ)	
Abatement	7-2
Ship/System Electromagnetic Compatibility (EMC)	7-3

NAVSEA S9040-AA-GTP-010/SSCR

CERTIFICATION REQUIREMENT DATA SHEET

TO BE CERTIFIED: Radio Frequency Radiation (RFR) Hazards (RADHAZ) Abatement	
PURPOSE: To certify surface ship compliance with DoD policy for hazardous RF Electromagnetic Fields (EMF) and other dangers associated with DoD electronic equipment (Note 1).	
SOURCE OF REQUIREMENTS: DODINST 6055.11A, Protection of DoD Personnel from Exposure to Radio Frequency Radiation and Military Exempt Lasers dtd 21 Feb 1995	
CERTIFICATION TESTING (INSPECTION) IS DONE BY: Instrumented testing by NAVSEA designated test team and visual inspection by Naval Supervising Authority (NSA)	
CERTIFYING AUTHORITY: NAVSEA 03K2B or NSA	CERTIFICATION IS MADE TO: Ship's C.O. (copy to TYCOM, Ship Program Manager (SPM) and NAVSEA 03K2B)
TIME FRAME RELATIVE TO OTHER EVENTS: For SCN lead ship, it is prior to PSA completion. For SCN follow ships, it is prior to Acceptance Trials. For in-service ships, it is prior to the end of the warranty period.	
APPLICABLE TEST PROCEDURES: NAVSEA Drawing STD-407-5291780, Standard EMI Survey Procedures. Procedures and baseline drawings are available through the SEMCIP Technical Assistance Network (STAN).	
PREREQUISITES: Topside installations must be complete. For instrumented RADHAZ at sea testing, all communications, radar and weapon system transmitters and associated antenna systems must be operational.	
SUPPORT SERVICES REQUIRED: For at sea testing, systems must be manned and operated by ship's force or shipyard personnel under the direction of the RADHAZ test team leader.	
NOTES: 1. RADHAZ certification is required for: SCN ships; in-service ships undergoing industrial availabilities exceeding 120 days, or where changes to topside emitters or surrounding superstructure, made by Engineering Change Proposal (ECP), SHIPALT, or other authorized procedures, might endanger personnel. 2. At sea instrumented RADHAZ testing and a dockside visual inspection are conducted on the lead SCN ship of each class from each yard to obtain baseline data and to validate the EM Control Topside Arrangement drawing. A dockside visual inspection is conducted on all SCN follow ships and active ship availabilities when the ship/class EM Control Topside Arrangement drawing has been validated through instrumented testing. 3. At sea instrumented RADHAZ testing may be required on SCN follow ships or ships undergoing industrial availabilities where class upgrade or first installation of an approved class change requires RADHAZ baseline revalidation. 4. Certification funding for new construction and in-service (FMP) ships is provided by the SPM. For other certification, such as following repairs, funding is provided by the sponsoring activity.	

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TO BE CERTIFIED: Ship/System Electromagnetic Compatibility (EMC)	
PURPOSE: Certify surface ship compliance with OPNAV policy for Electromagnetic Compatibility for ship and battle force operations.	
SOURCE OF REQUIREMENTS: OPNAVINST 2450.2, EMC Program within the Department of the Navy dtd 8 Jan 1990.	
CERTIFICATION TESTING (INSPECTION) IS DONE BY: NAVSEA 623 designated test team, Naval Supervising Activity (NSA), FTSC, IMA, SPM, PARM, or contractor witnessed by government activity. See Note 5.	
CERTIFYING AUTHORITY: NAVSEA 623.	CERTIFICATION IS MADE TO: Ship Certification to Ship's C.O., TYCOM, and Ship Program Manager (SPM). System Certification to Program Acquisition Resource Manager (PARM).
TIME FRAME RELATIVE TO OTHER EVENTS: Ship EMC Certification for SCN ships will be accomplished prior to ship delivery. For FMP ships inside CNO Availabilities, Ship EMC Certification will be performed inside the warranty period. System EMC Certification will occur following installation and completion of a System Operation Verification Test (SOVT) or other system operation test.	
APPLICABLE TEST PROCEDURES: NAVSEA Drawing STD 407-5291780(), Standard EMI Survey Procedures. Test procedures and baseline drawings are available through the Shipboard Electromagnetic Compatibility Improvement Program (SEMCIP) Technical Assistance Network (STAN) (www.semcip.com).	
PREREQUISITES: For Ship/System EMC Certification, topside and below deck installations are complete and applicable systems operability testing has been completed. Additionally, for System EMC Certifications, DD Form 1494 for frequency allocation is submitted.	
SUPPORT SERVICES REQUIRED: Systems involved in the test must be manned and operated by ship's force or shipyard personnel under the direction of the test team leader. Testing will be conducted either in-port or at sea, as specified in the test procedure in STAN.	
NOTES: <ol style="list-style-type: none"> Guidance for Ship/System EMC certification requirements, frequency allocation and testing is located in NAVSEA Drawing STD 407-5291780(), Standard Electromagnetic Interference (EMI) Survey Procedures, Volume 1. Ship EMC Certification testing by NAVSEA 623 is required for all SCN ships to establish an EMC baseline. Subsequent Ship EMC Certifications will be accomplished: <ol style="list-style-type: none"> For deployers after Target Configuration Date (TCD), typically 6 months prior to deployment. Following industrial availabilities greater than 120 days. Every three years for non-deployers. 	

CERTIFICATION REQUIREMENT DATA SHEET

3. The criteria for Ship EMC Certification are as follows:
 - a. All available EMI fixes have been installed.
 - b. All uncorrected mission-degrading EMI problems have been identified and reported to the C.O.
 - c. Intermodulation Interference (IMI) does not exceed (19th) order.
4. Funding for Ship EMC Certification testing is provided by:
 - a. Ship Program Manager (SPM) for new construction ships and major availabilities (i.e. RCOH).
 - b. Type Commander for in-service ships.
5. System EMC Certification is required for a new electrical/electronic systems installed by SHIPALT, AER, TIA or other alteration, after the ship is placed in-service. It will be conducted following the SOVT or other operation test for the newly installed system. NAVSEA 623 test team will conduct System EMC Certification testing for the first two ships of each class, flight, baseline as applicable. Subsequent System EMC Certification testing can be accomplished by PARM, SPM, NSA, FTSC, IMA, or contractor witnessed by government activity.
6. The criteria for System EMC Certification are as follows:
 - a. The system has an approved (Stage 4) DD-1494 Application for Frequency Allocation (J/F-12).
 - b. No mission-degrading EMI has been introduced by installation of the system.
 - c. EMI fixes have been installed to correct mission-degrading EMI caused by the installation of the system.
7. Funding for System EMC Certification testing is provided by:
 - a. PARM Activity sponsoring the system installation.

APPENDIX A

CERTIFICATION DEFINITIONS

The following definitions apply to certifications:

CERTIFICATION. The act of attesting by report, letter, certificate, or message, that the performance of an equipment or system meets prescribed criteria. The word carries the connotation of a guarantee.

CERTIFICATION REQUIREMENT. A requirement, imposed by Flag-level authority and approved by NAVSEA, that a surface ship equipment or system be certified to meet prescribed criteria as established in the certification test procedures. If the formal acceptance of a system requires involvement of government or government-sponsored personnel from an organization outside the on-site Supervising Authority or shipyard; and that organization has the authority to accept or reject the system, to direct a correction order, or to prevent operation of the system, the requirement shall be considered a CERTIFICATION for the purposes of this policy and must be reviewed and approved accordingly.

CERTIFYING AUTHORITY. The activity responsible for issuing the certificate which states an equipment or system meets the prescribed criteria established in the certification test procedures.

CERTIFICATION TEST PROCEDURE. The test procedure or other formally approved and authorized documentation which provides the prescribed criteria standards for conducting certification testing or inspection.